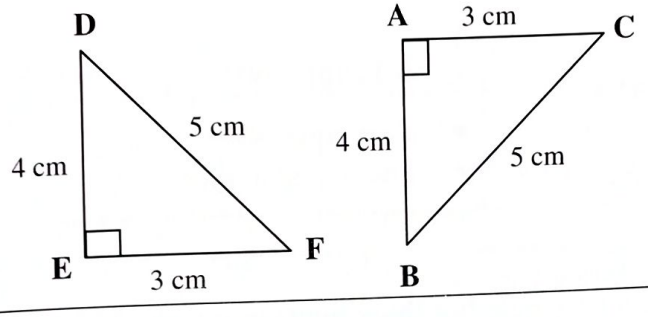
§ 7.9 SIMILAR AND CONGRUENT POLYGONS

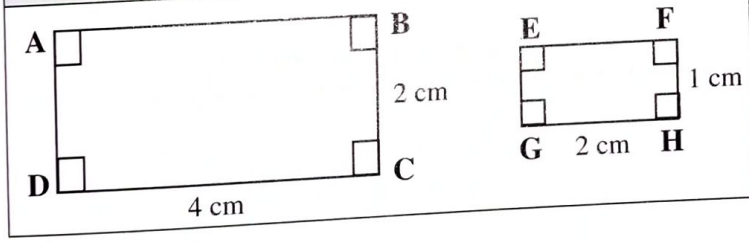
Congruent polygons:

- Congruent polygons are **identical** to each other. Their:
  - corresponding sides are equal in length and
  - corresponding angles are equal in size
- A congruent polygon is obtained when the given polygon is translated, reflected or rotated.

EXAMPLE	SOLUTION
	ΔDEF has been reflected to form ΔBAC, but its sides and angles are unchanged. ΔDEF ≡ ΔBAC

Similar polygons:

- Polygons are similar if:
  - they are equiangular (angles equal in size) **and**
  - their corresponding sides are in proportion.
- Similar polygons are obtained when a given polygon is enlarged or reduced.

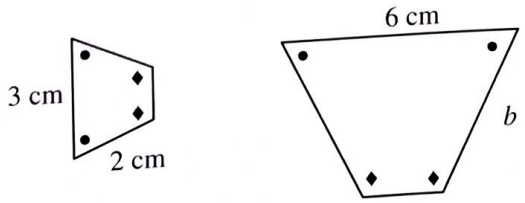
EXAMPLE	SOLUTION
	ABCD and EFGH are equiangular The sides of ABCD and EFGH are in the proportion 2 : 1 So ABCD ||| EFGH

Exercise 7.9

1) Are the following figures congruent or only similar?

2) Calculate the lengths of the marked sides.

a)



b)